

FORM PTO-1390 DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE
(REV 11-2000)

**TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371**

ATTORNEY'S DOCKET NO.

660106.401USPC

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

Unknown **09/857007**

INTERNATIONAL APPLICATION NO.

PCT/CA99/00896

INTERNATIONAL FILING DATE

27 September 1999 (27.09.1999)

PRIORITY DATE CLAIMED

27 September 1999 (27.09.1999)

TITLE OF INVENTION

PARKING METER

APPLICANT(S) FOR DO/EO/US

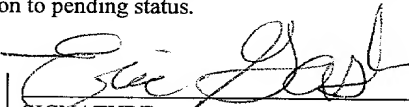
MITSCHELE, Frederick, L.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☐ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2)).
 - a. ☒ is attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ has been communicated by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
 - a. ☐ is attached hereto
 - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).
 - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ have been communicated by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ A English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 20 below concern document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☐ A **FIRST** preliminary amendment.
14. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
15. ☐ A substitute specification.
16. ☐ A change of power of attorney and/or address letter.
17. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 – 1.825.
18. ☒ A second copy of the published international application under 35 U.S.C. 154(d)(4)
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☐ Other items of information:

U.S. APPLICATION NO. (If known, see 37 CFR 1.5) Unknown 09/857007		INTERNATIONAL APPLICATION NO. PCT/CA99/00896		ATTORNEY'S DOCKET NUMBER 660106.401USPC	
21. <input checked="" type="checkbox"/> The following fees are submitted: Basic National Fee (37 CFR 1.492(a)(1)-(5)):				CALCULATIONS <small>PTO USE ONLY</small>	
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1000.00					
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$860.00					
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International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4)..... \$690.00					
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Surcharge of \$130.00 for furnishing the oath or declaration later than <input checked="" type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$130.00	
Claims	Number Filed	Number Extra	Rate		
Total Claims	12 - 20 =	0	x \$ 18.00	\$.00	
Independent Claims	2 - 3 =	0	x \$ 80.00	\$.00	
Multiple dependent claim(s) (if applicable)			+ \$270.00	\$.00	
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<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				\$495.00	
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Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property				\$.00	
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TRANSMITTAL FORM <i>(To be used for all correspondence after initial filing)</i>	Application Number	09/857,007
	International Filing Date	September 27, 1999
	First Named Inventor	Frederick L. Mitschele
	Group Art Unit	Unknown
	Examiner Name	Unknown
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ENCLOSURES (check all that apply)

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Response <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement; Form PTO-1449 <input checked="" type="checkbox"/> Cited References (8) <input type="checkbox"/> Certified Copy of Priority Document(s) <input checked="" type="checkbox"/> Response to Missing Parts under 37 C.F.R. 1.52 or 1.53 <input type="checkbox"/> Response to Missing Parts/Incomplete Application	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input checked="" type="checkbox"/> Request for Correction of International Filing Date <input type="checkbox"/> Licensing-related Papers <input checked="" type="checkbox"/> Petition (PTO/SB/22) <input type="checkbox"/> Petition to Convert to a Provisional Application <input checked="" type="checkbox"/> Power of Attorney, Revocation, Change of Correspondence Address <input checked="" type="checkbox"/> Declaration <input type="checkbox"/> Statement under 37 CFR 3.73(b) <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Small Entity Statement <input type="checkbox"/> Request for Refund	<input type="checkbox"/> CD(s), Number of CD(s) _____ <input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Return Receipt Postcard <input checked="" type="checkbox"/> Additional Enclosure(s) (please identify below): <u>Copy of International Search Report for PCT/CA99/00896</u> _____ _____ _____
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Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Individual Name	George C. Rondeau, Jr. Reg. No. 28,893	 00500 PATENT TRADEMARK OFFICE
Signature	<i>George C. Rondeau</i>	
Date	October 17, 2001	

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on the date specified below.		
Typed or printed name	Jennifer B. Hanan	
Signature	<i>Jennifer B. Hanan</i>	Date: October 17, 2001

PARKING METERTechnical Field

5 The present invention relates to parking meters and, more particularly, parking meters which detect the presence or absence of a vehicle.

Background Art

10

 Prior parking meters are known which increase revenues by detecting the presence or absence of a vehicle. U.S. Pat. No. 4,823,928 which issued to POM Incorporated in 1989, describes an electronic parking meter system that resets the timing circuit to zero when a vehicle
15 is no longer detected in the associated parking space. The POM Incorporated parking meter is placed in an operational mode when a coin is deposited. When placed in the operational mode, a sonar range finder is turned on which detects the presence or absence of a vehicle in the associated parking space. The sonar range finder provides a signal to a
20 microprocessor controller when the vehicle is no longer in the associated parking space, and the microprocessor controller resets the timer.

 While the POM Incorporated parking meter assists in maximizing parking meter revenues, it does not catch parking meter violations. In order to catch parking meter violations, parking meter
25 attendants and parking by-law enforcement officers patrol the streets. Typically, comparatively few enforcement officers are charged with responsibility for a huge number of parking meters, so enforcement is random, at best. This problem was addressed in the United States Patent no. 5,777,951 which discloses a parking meter system in which a camera

- is used to record and store the image of the license plate of a parking violator. The parking meter includes a microcontroller and a timer coupled with the microcontroller. Payment acceptance means is coupled with the microcontroller for accepting payment for use of an associated parking space. The microcontroller initiates the timer for a prepaid parking interval upon receiving a signal from the payment acceptance means. Vehicle detection means is coupled with the microcontroller for detecting the presence or absence of a vehicle in the associated parking space. A communications modem is coupled with the microcontroller.
- 10 The microcontroller initiates a call notifying authorities as to a parking violation upon the vehicle detection means signalling to the microcontroller the presence of a vehicle in the associated parking space after the expiration of the prepaid parking interval, or the microprocessor initiates the camera to take an image of a vehicle upon the vehicle
- 15 detection means signalling to the microprocessor the presence of the vehicle in the associated parking space after the timer has signalled to the microprocessor the expiration of the prepaid parking interval. However in some instances, an experienced parking violator can prevent detection by obscuring the license plate with a covering, tape etc. There is
- 20 therefore a need for a vehicle identification means for use with prior parking meter systems which is less vulnerable to circumvention.

Disclosure of Invention

- 25 According to the present invention there is provided a parking meter comprising:

- i) a microcontroller;
- ii) a timer coupled with the microcontroller;
- iii) payment acceptance means coupled with the microcontroller for accepting payment for use of an associated parking space, such that the microcontroller initiates the timer for a prepaid parking interval upon receiving a signal from the payment acceptance means;
- iv) vehicle detection means coupled with the microcontroller for detecting the presence or absence of a vehicle in the associated parking space;
- v) means for identifying a vehicle parked in the associated parking space, comprising an interrogation station coupled with the microcontroller, said interrogation station adapted to direct an interrogation signal at the associated parking space in the area of the parking space where the license plate of a parked vehicle is located, receive a reply signal encoded with a vehicle identification code and to decode said signal, the microcontroller initiating the interrogation station to direct an interrogation signal at the associated parking space in the area of the parking space where the license plate of a parked vehicle is located upon determining the existence of a parking violation; and
- vi) digital storage means for storing said decoded vehicle identification code.

Brief Description of Drawings

- These and other features of the invention will become more apparent from the following description in which reference is made to the appended drawings, wherein:

FIG. 1 is a perspective view of a prior art parking meter which detects the presence or absence of a vehicle;

FIG. 2 is a block diagram of the components of the parking meter illustrated in FIG. 1;

5 FIG. 3 is a front view of a second embodiment of the parking meter according to the invention; and

FIG. 4 is a rear view of a second embodiment of the parking meter according to the invention; and

10 FIG. 5 is a block diagram of the components of the parking meter illustrated in FIG. 3.

Best Mode(s) For Carrying Out the Invention

15 The preferred embodiment, a parking meter generally identified by reference numeral 10, will now be described with reference to FIGS. 1 through 4.

Referring to FIG. 1, there is illustrated parking meter 10 and an associated parking space 12. A vehicle 14 is parked in associated parking space 12. Also illustrated is a remote monitoring station 16, the
20 purpose and operation of which will hereinafter be further described. Referring to FIG. 2, the internal components of parking meter 10 include a microcontroller 18. A timer 20 is coupled with and controlled by microcontroller 18. A vehicle detector 22 is coupled with and sends signals to microcontroller 18. Referring to FIG. 1, vehicle detector 22 is
25 focused at associated parking space 12 so that it detects the presence or absence of a vehicle, such as vehicle 14, in associated parking space 12. Referring to FIG. 2, a payment acceptance mechanism 24 is coupled with

and sends signals to microcontroller 18. Payment acceptance mechanism 24 can be configured to accept payment by coin, credit card or both for use of associated parking space 12. A communications modem 26 is coupled with and controlled by microcontroller 18. A digital camera 28 is coupled with and controlled by microprocessor 18. Referring to FIG. 1, digital camera 28 is focused at one of the car 14 license plates 30 in associated parking space 12.

The use and operation of parking meter 10 will now be described with reference to FIGS. 1 and 2. Referring to FIG. 1, the operation of parking meter 10 is initiated by vehicle 14 pulling into associated parking space 12 and its presence being detected by vehicle detector 22. Microcontroller 18 initiates timer 20 for a predetermined standby interval upon receiving a signal from vehicle detector 22 that vehicle 14 is present in associated parking space 12. Should payment be made for use of associated parking space 12, microcontroller 18 will terminate the timing of the standby interval and initiate timer 20 for a prepaid parking interval upon receiving a signal from payment acceptance mechanism 24. A parking violation occurs when the operator of vehicle 14 either fails to make payment or when the prepaid parking interval expires. Microcontroller 18 initiates a call through communications modem 26 notifying parking authorities at monitoring station 16 as to a parking violation upon vehicle detector 22 signalling to microcontroller 18 the presence of vehicle 14 in associated parking space 12 after the expiration of either the standby interval or the prepaid parking interval.

While in United States Patent no. 5,777,951, it was contemplated that concurrently with initiating a call notifying parking authorities as to the parking violation, microprocessor 18 would activate

digital camera 28 to take a digital image of the license plate of vehicle 14, it has been discovered that parking violators will circumvent the system by wholly or partially covering the license plate when parked, such as with an attached covering or tape. It has been found that this difficulty is addressed in a system where vehicles are equipped with an electronic identification license plate or tag which is read by the parking meter when a violation is detected. A suitable identification tag is disclosed in U.S. patent no. 4,001,822 entitled "Electronic License Plate for Motor Vehicles". As disclosed in that patent, each vehicle is provided with a license plate which not only has visible indicia, but also electronic circuitry which, when interrogated by an external signal at a predetermined frequency, emits a coded reply signal which communicates a vehicle identification code to the interrogating source, without the need for a power source on the licence plate.

According to this invention, therefore, front and rear license plates 30 of vehicle 14 are provided with the electronic tag described above which is adapted to transmit the vehicle's unique identification number upon receipt of an external interrogation signal. Parking meter 10, shown in Fig. 3 and 4, has a meter head 40 carrying payment mechanism 24 and time display window 42. A standard coin vault 44 is provided. Between meter head 40 and coin vault 44 is housing 46 which houses the circuitry for vehicle detector 22, microcontroller 18, communications modem 26, and an interrogator 32, as described in U.S. patent no. 4,001,822, which sends an interrogation microwave signal directed at the parking space 12, and receives the reflected coded signal from license plate 30, decodes it and communicates the identification number to microcontroller 18. As in the previous system, the operation

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of parking meter 10 is initiated by vehicle 14 pulling into associated parking space 12 and its presence being detected by vehicle detector 22. Microcontroller 18 initiates timer 20 for a predetermined standby interval upon receiving a signal from vehicle detector 22 that vehicle 14 is present in associated parking space 12. Should payment be made for use of associated parking space 12 microcontroller 18 will terminate the timing of the standby interval and initiate timer 20 for a prepaid parking interval upon receiving a signal from payment acceptance mechanism 24. A parking violation occurs when the operator of vehicle 14 either fails to make payment or when the prepaid parking interval expires. Upon occurrence of a parking violation, microcontroller 18 causes interrogator 32 to send an interrogation microwave signal directed at the parking space 12, and receives the reflected coded signal from license plate 30. The reply signal is decoded and the identification number is communicated to microcontroller 18 for storage and/or a call is initiated through communications modem 26 notifying parking authorities at monitoring station 16 as to a parking violation and providing the vehicle identification number.

While the preferred identification tag system is that disclosed in U.S. patent no. 4,001,822, other systems can also be useful in the invention, such as those disclosed in the following United States patents: U.S. patent no. 4,242,663 entitled "Electronic Identification System": U.S. patent no. 4,104,630 entitled "Vehicle Identification System, Using Microwaves": U.S. patent no. 3,914,762 entitled "Electronic Identification System": and U.S. patent no. 3,798,641 entitled "Process and System for Identification of a Vehicle".

Parking meter 10 in Fig. 3 may in addition be provided with a digital camera for use as both a vehicle sensor and vehicle identification. While in United States Patent no. 5,777,951, it was contemplated that vehicle detector 22 would operate based upon such detection technologies as ultrasonic, infrared, or micro-powered radar, it has been discovered that camera 28 can also function as the detection means. By utilizing appropriate shape-distinguishing software, the image detected by the camera can be used to detect the presence or absence of a vehicle in the parking space 12. Such software must be capable of distinguishing large immobile objects, recognized as parked vehicles, including large and small vehicles and motorcycles, from irrelevant objects such as moving vehicles, humans, animals, bicycles etc. Such software is known from robotics applications and can function by comparing an earlier digital image to a later digital image, based on a selected time interval, or may be based on the size of the image footprint. By utilizing the camera as the vehicle detection means, the need for additional hardware is avoided and costs of the parking meter are reduced considerably. Camera 28 may be an infrared camera to function in low light situations. Other forms of vehicle detection would also be possible, such as in ground sensors of the type used to sense the presence of vehicles at stoplights. An example of such as in-ground sensor is the GROUND-HOGTM manufactured by Nu-metrics which is a wireless, self-contained, in-ground traffic monitor which transmits a signal upon detection of a vehicle. Such a sensor could also be integrated into parking meter 10.

Where a communications link between monitoring station 16 and parking meter 10 is provided, by modem 26 and land lines or wireless communication, it can be used for a number of secondary

purposes. When parking meter 10 is not in operation a signal can be sent from monitoring station 16 to place microcontroller 18 in a dormant mode. Remote audit reporting can be conducted as required through communication between parking meter 10 and remote monitoring station

5 16.

In this application the term "credit card" has been used. It is intended that this term encompass the entire spectrum of card form payments, including; debit cards, smart cards, stored value cards, proprietary parking cards, and parking passes. It will be appreciated by

10 one skilled in that art that there are a variety of payment acceptance mechanisms that can be utilized, whether coin, paper bills, or credit card as described above.

FOOTNOTES

WHAT IS CLAIMED IS:

1. A parking meter, comprising:
 - i) a microcontroller;
 - ii) a timer coupled with the microcontroller;
 - 5 iii) payment acceptance means coupled with the microcontroller for accepting payment for use of an associated parking space, such that the microcontroller initiates the timer for a prepaid parking interval upon receiving a signal from the payment acceptance means;
 - iv) vehicle detection means coupled with the microcontroller for
10 detecting the presence or absence of a vehicle in the associated parking space;
 - v) means for identifying a vehicle parked in the associated parking space, comprising an interrogation station coupled with the microcontroller, said interrogation station adapted to direct an interroga-
15 tion signal at the associated parking space in the area of the parking space where the license plate of a parked vehicle is located, receive a reply signal encoded with a vehicle identification code and to decode said signal, the microcontroller initiating the interrogation station to direct an interrogation signal at the associated parking space in the area of the
20 parking space where the license plate of a parked vehicle is located upon determining the existence of a parking violation; and
 - vi) digital storage means for storing said decoded vehicle identification code.
2. The parking meter of claim 1 further comprising:
 - 25 vii) telecommunications means coupled with said microcontroller, the microcontroller initiating a call notifying a remote monitoring station

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upon determining the existence of a parking violation and communicating said vehicle identification code.

3. The parking meter of claim 2 wherein said telecommunications means is adapted to transmit said vehicle identification code to said
5 authorities.

4. The parking meter of claim 1 wherein said microcontroller comprises a microprocessor.

5. The parking meter as defined in claim 1 wherein said vehicle detection means further comprises a digital camera which detects the
10 presence of a vehicle.

6. The parking meter as defined in claim 1 wherein said vehicle detection means comprises an ultrasonic, radar or infrared detector.

7. The parking meter as defined in claim 2 wherein said telecommunications means comprises a modem.

8. The parking meter as defined in claim 1, wherein the micro-
15 controller initiates the timer for a predetermined standby interval upon receiving a signal from the vehicle detection means that a vehicle is present in the associated parking space, wherein said microcontroller is adapted to terminate the timing of the standby interval upon receiving a
20 signal from the payment acceptance means, and said microcontroller initiates the interrogation station to direct an interrogation signal at the associated parking space in the area of the parking space where the license plate of a parked vehicle is located after expiry of said standby interval without receiving a signal from said payment acceptance means
25 that a payment has been made.

9. The parking meter as defined in claim 2, wherein the micro-controller initiates the timer for a predetermined standby interval upon

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i) a microcontroller;

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iii) payment acceptance means coupled with the microcontroller

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iv) vehicle detection means coupled with said microcontroller for detecting the presence or absence of a vehicle in the associated parking space comprising an in-pavement magnetic field sensor adapted to

transmit a signal to said microcontroller upon detection of a vehicle in said associated parking space;

v) means for identifying a vehicle parked in the associated parking space.

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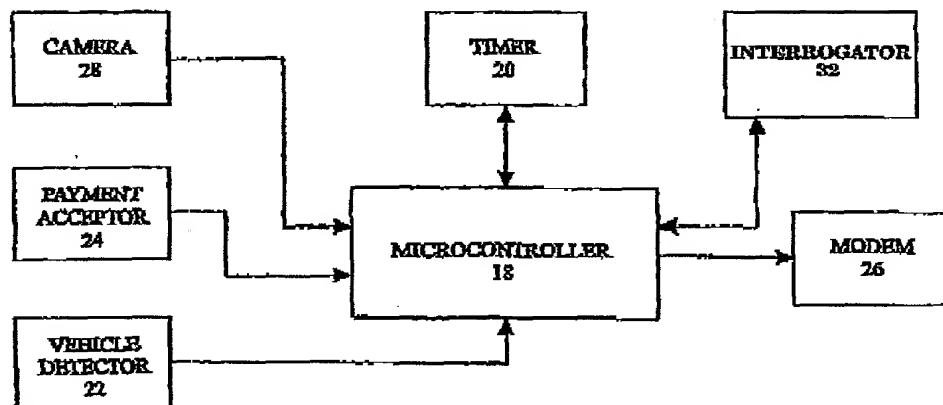
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For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: PARKING METER



(57) Abstract: A parking meter includes a microcontroller and a timer coupled with a microcontroller. A mechanism for accepting payment by coin, credit card or both is coupled with the microcontroller for accepting payment for use of an associated parking space. The microcontroller initiates the timer for a prepaid parking interval upon receiving a signal from the payment acceptance mechanism. A vehicle detector is coupled with the microcontroller for detecting the presence or absence of a vehicle in the associated parking space. The microcontroller initiates an interrogation station to direct an interrogation signal at the associated parking space in the area of the parking space where the license plate of a parked vehicle is located upon determining the existence of a parking violation.

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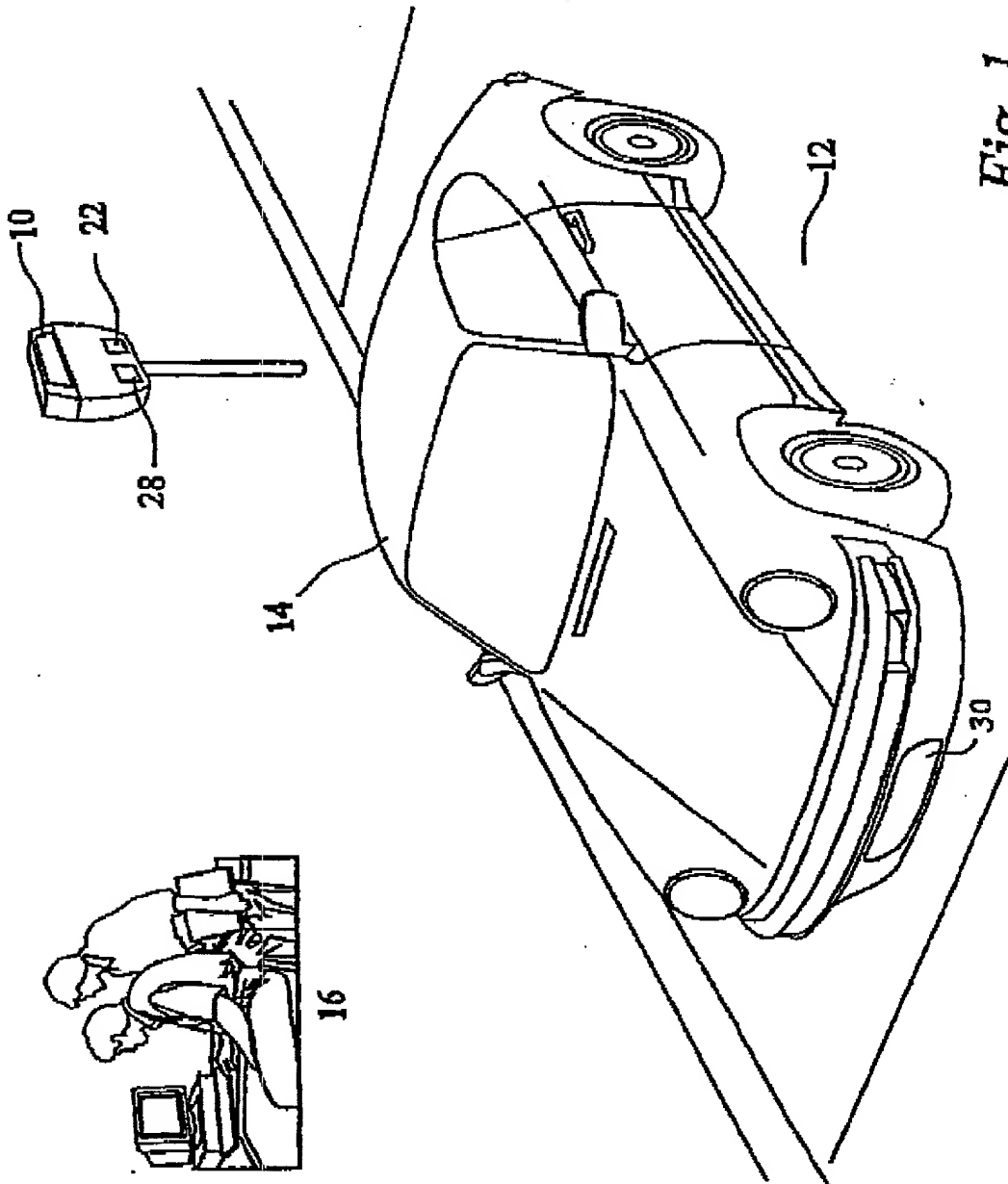
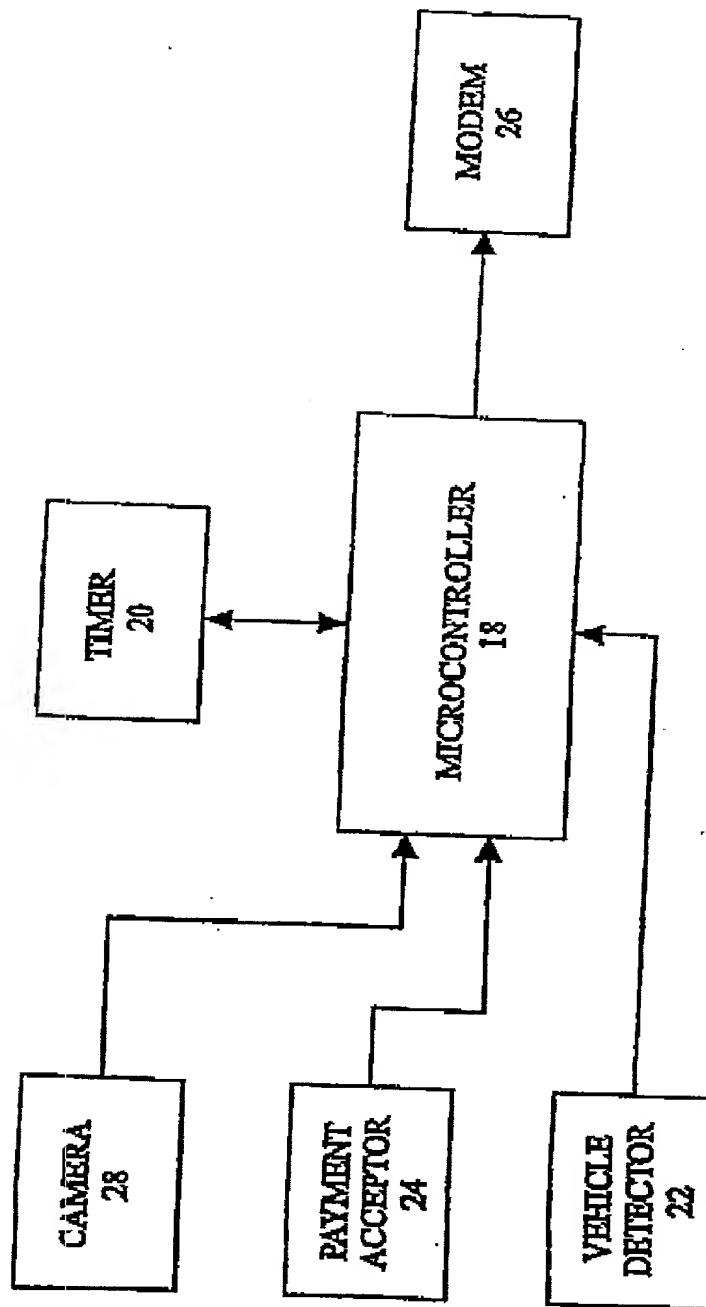


Fig. 1

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Fig. 2



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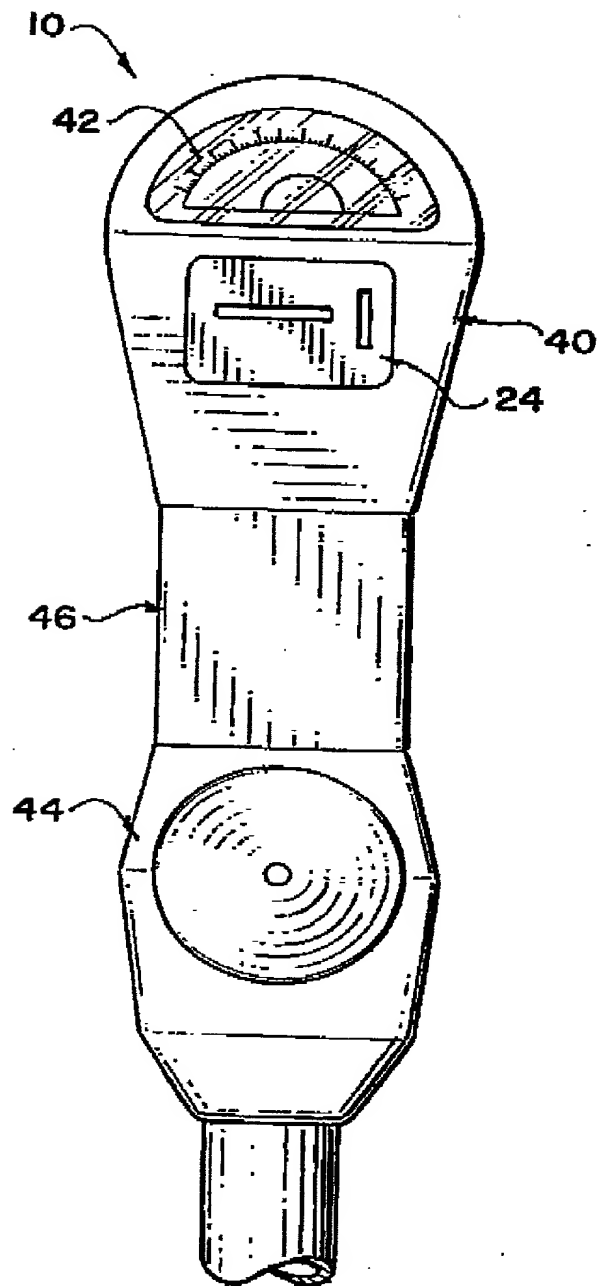


FIG. 3

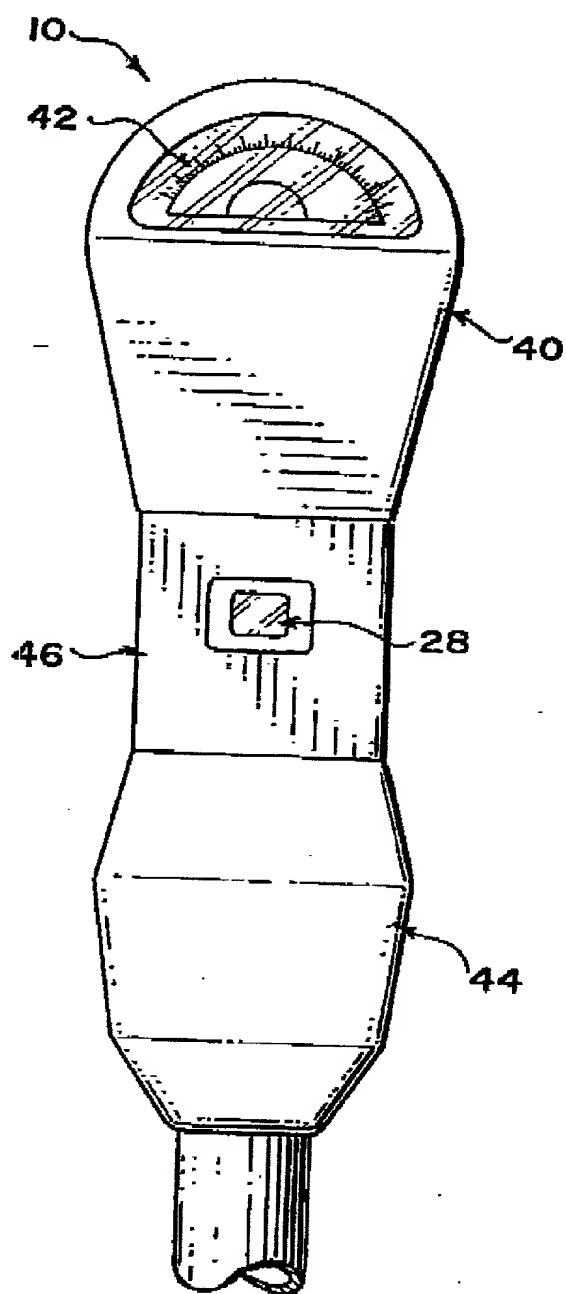
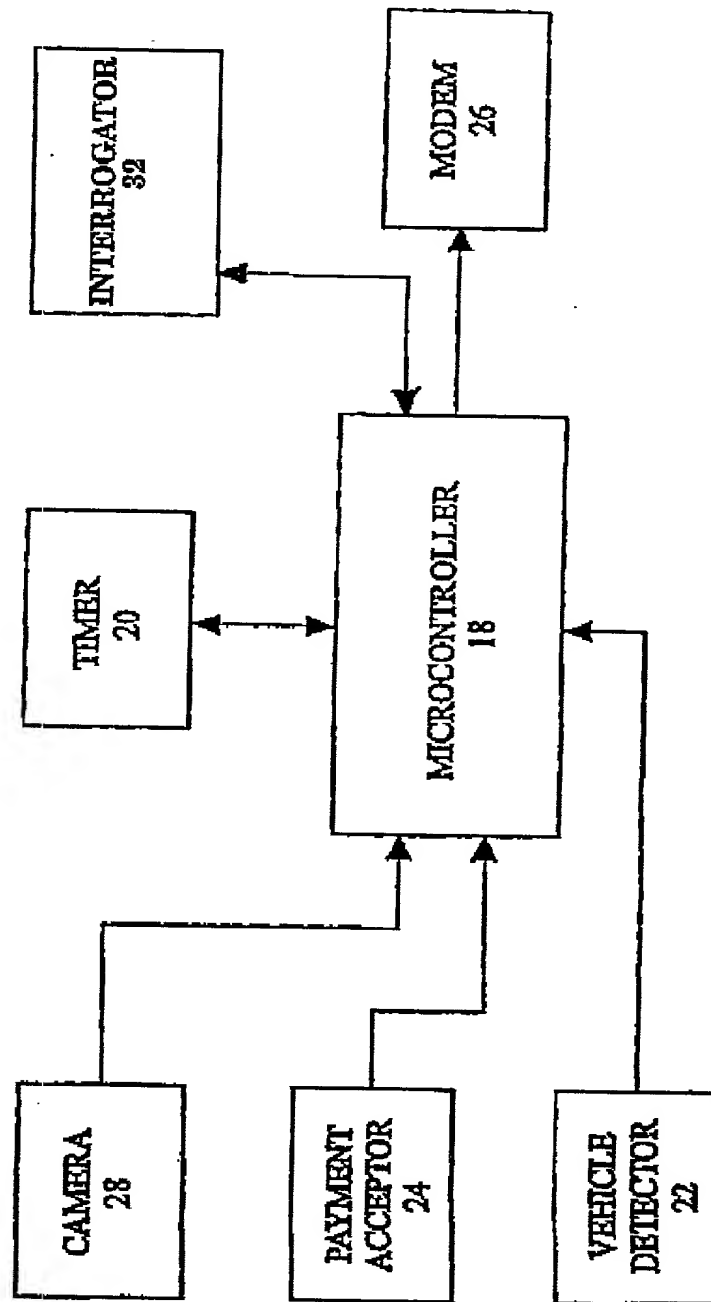


FIG. 4

Fig. 5



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Max Mitschele

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DECLARATION AND POWER OF ATTORNEY

As the below-named inventor, I declare that:

My residence, post office address, and citizenship are as stated below under my name.

I believe I am the original, first, and sole inventor of the invention entitled "PARKING METER," which is described and claimed in the specification and claims of International Patent Application No. PCT/CA99/00896, which was filed on 27 September 1999 and for which a patent is sought.

I have reviewed and understood the contents of the above-identified specification and claims, as amended by any amendment specifically referred to herein (if any). I acknowledge my duty to disclose information of which I am aware which is material to the patentability and examination of this application in accordance with 37 C.F.R. § 1.56(a).

I hereby claim foreign priority benefits under 35 U.S.C. § 119 of the foreign patent application listed below:

PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. 119:			
COUNTRY	APPLICATION NUMBER	DATE OF FILING	PRIORITY CLAIMED UNDER 35 USC 119
PCT	PCT/CA99/00896	27 September 1999	Yes

I hereby appoint George C. Roudsaw, Jr., Reg. No. 28,893; David H. Deits, Reg. No. 28,066; William O. Ferron, Jr., Reg. No. 30,633; Richard G. Sharkey, Reg. No. 32,629; David V. Carlson, Reg. No. 31,153; Karl R. Hermanns, Reg. No. 33,507; Michael J. Donohue, Reg. No. 35,859; Jane E. R. Potter, Reg. No. 33,352; Robert Iannucci, Reg. No. 33,514; Lorraine Linford, Reg. No. 35,639; David W. Parker, Reg. No. 37,414; E. Russell Tarleton, Reg. No. 31,800; Ellen M. Bierman, Reg. No. 38,079; Brian G. Bodine, Reg. No. 40,570; Robert M. Ward, Reg. No. 26,517; Frank Abramonte, Reg. No. 38,066; Kevin S. Costanza, Reg. No. 37,301; Thomas E. Loop, Reg. No. 42,810; Stephen J. Rosenman, Reg. No. 43,058; Brian L. Johnson, Reg. No. 40,033; Susan D. Betcher, Reg. No. 43,498; William T. Christiansen, Reg. No. 44,614; Eric J. Gaah, Reg. No. 46,274; Jeffrey C. Pepe, Reg. No. 46,985; Charles J. Rupnick, Reg. No. 43,068; Timothy L. Boller, Reg. No. 47,435; and James M. Vena, Reg. No. 33,287; comprising the firm of Seed Intellectual Property Law Group P.C., 701 Fifth Avenue, Suite 6300, Seattle, Washington 98104-7092, as my attorneys to prosecute this application and transact all business in the Patent and Trademark Office

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connected therewith. Please direct all telephone calls to Eric J. Gash at (206) 622-4900 and telecopies to (206) 682-6031.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.


Frederick L. Mitschele

Date Oct 3, 2001

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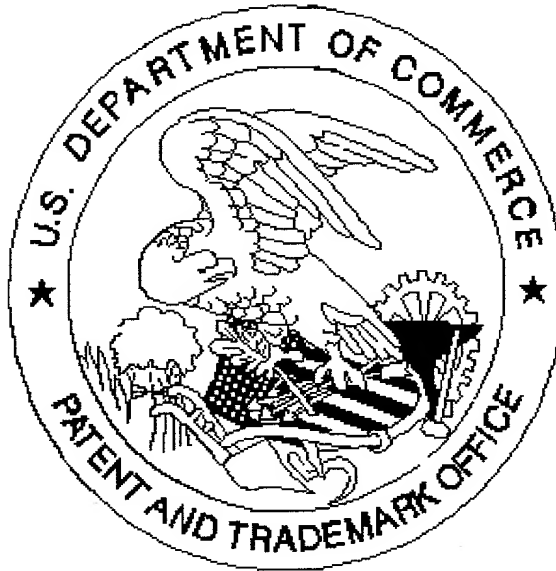
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